5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS OF THE PROPOSED ACTION AND ALTERNATIVES

We have determined that construction and operation of the Iroquois ELI Pipeline Project would result in limited adverse environmental impacts, based on information provided by Iroquois and data developed from data requests; field investigations by Commission staff; literature research; alternatives analysis; comments from Federal, state, and local agencies; and input from public groups and individual citizens. These limited impacts would be most significant during the construction period. The establishment of new and expanded rights-of-way would result in long-term, unavoidable impacts. Loss of forests in the construction ROW would require from 25 to 150+ years for full recovery from preconstruction levels. Offshore impacts to live bottom would generally be long term.

As part of our review, we developed measures that we believe would appropriately and reasonably avoid, minimize, or mitigate environmental impacts resulting from construction and operation of the proposed project. We believe that if this project is constructed and operated in accordance with these mitigation measures, it would be an environmentally acceptable project. We are therefore recommending that our mitigation measures be attached as conditions to any authorization issued by the Commission. Included below is a summary of the impacts and our conclusions.

Geology

Construction and operation of the proposed Iroquois gas pipeline would not significantly alter geologic conditions in the project area, and impacts on geologic resources would be minimal. We have not identified any geologic hazards that would not be surmounted by proper pipeline design and construction methods.

Although the Iroquois ELI Pipeline is proposed to be built in an area that is not highly seismically active and we believe that the seismic risk for this project is minimal, seismic hazards pose the largest potential geological impact to operation of the proposed pipeline. Impacts from transient ground motions and soil liquefaction resulting from seismic activity would be incorporated into Iroquois's facility designs. The risk of permanent ground displacements resulting from active faulting along the pipeline route is minimal because the pipeline crosses no known active faults.

Soils and Sediment

Construction would disturb soils and offshore sediments. Onshore construction would increase the potential for erosion and soil compaction and could result in increased rock content in some surface soils. Iroquois would minimize impacts on soils by using the measures included in our Plan. Although agricultural drain tiles have not been identified along the proposed pipeline route, any such tiles damaged by construction would be restored, repaired, or replaced according to our Plan.

Impacts on soil productivity that may result from construction of the pipeline could continue over a period of several growing seasons, despite implementation of all of the measures contained in our Plan. Iroquois would be responsible for ensuring the correction of such long-term impacts in accordance with our Plan. To document mitigation activities, Iroquois would file quarterly reports describing any problems related to restoration of agricultural land and corrective actions taken. These reports would be filed with the Secretary for a period of at least 2 years. We believe the use of our Plan, and our recommendations would adequately minimize impacts on soils resulting from this project.

Most of the offshore sediments disturbed by pipeline construction would be those disturbed by trenching the sea floor. In water 12-feet deep or greater, Iroquois proposes to trench using a seaplow where technically feasible and we have recommended that midline buoys be used on the barge anchor cables. Midline buoys reduce the area of sea floor affected by cable sweep by approximately 50 percent and plowing causes the least amount of sediment to be released to the water column. We believe that employing these measures would adequately minimize impacts to sediments of the Sound.

Water Use and Quality

Groundwater

The proposed Eastern Long Island Extension route would be located above the Nassau-Suffolk Sole-Source Aquifer in New York. In Connecticut, the Brookfield Compressor Station modification is located within the Town of Brookfield Aquifer Protection District, the Dover Compressor Station modification is located in the Valley Bottom Aquifer, specifically within the recharge area, and the new Devon Compressor Station is not located over a primary or sole source aquifer. The greatest potential for impacts on groundwater would be from hazardous material spills during construction. To address this issue, Iroquois would prepare a general SPCC Plan to address preventative and mitigative measures that would be used onshore to minimize the potential impact of a hazardous material spill during construction and operation. In addition, Iroquois would prepare site-specific SPCC plans.

We believe that Iroquois has proposed mitigation measures to adequately protect water supplies during construction and measures to restore water supplies if they are damaged.

Surface Water

The Eastern Long Island Extension Project would cross three major drainage basins. These drainage basin are the Long Island Sound in Connecticut, and the Northern and Southern Long Island basins in New York. In addition the Brookfield, Dover, and Devon Compressor Stations in Connecticut are located within the Housatonic River drainage basin and the Tenmile River drainage basin.

The proposed project would cross one intermittent and two perennial waterbodies. The perennial waterbodies are the Long Island Sound in Connecticut and New York, and the Carmans River in New York. The Carmans River in New York has a bank width of 20 feet. Iroquois proposes to cross the Carmans River using HDD. The proposed pipeline route crosses the Peconic

River (intermittent) on the eastern side of the William Floyd Parkway. The proposed construction workspace crosses the river where it occupies a culvert alongside the William Floyd Parkway. The Peconic River is planned to be crossed when the river is not flowing. We have recommended that Iroquois employ a typical bore method to install the pipe beneath the existing culvert, which is expected to avoid impacts to the channel and maintain water quality standards. In general, the potential effects of pipeline construction would be mitigated by adherence to the SPCC Plan. Other state and Federal regulatory agencies that review waterbody crossing permits may require additional mitigation measures.

Long Island Sound

The proposed ELI Project route would extend 17.1 miles across the Long Island Sound. The most significant potential impacts to water quality in the Sound from pipeline construction are from sediment resuspension/redeposition from trenching and burial of the pipeline, accidental fuel spills, and discharges of hydrostatic test water.

Iroquois is not proposing to use chemical additives for the offshore hydrostatic test water; therefore we do not anticipate any adverse effects to the marine environment from discharge of this water to the Long Island Sound. To avoid or minimize impacts from fuel or other chemical spills, Iroquois would develop an Offshore SPCC Plan. Other state and Federal regulatory agencies may require additional measures to mitigate potential impacts on marine water quality.

Fish, Benthic Communities, and Wildlife

Fisheries Resources

Surface waterbodies crossed by the Iroquois pipeline route in New York consist of coldwater streams supporting important recreational (trout) and diadromous (trout and eel) fish species. Iroquois would adhere to the construction criteria and mitigation measures implemented in the FERC's *Plan* and *Procedures* to minimize impacts to the resources in the waterbodies crossed by the pipeline route.

The Carmans River, MP 27.5 in New York, is known to support natural spawning trout. Iroquois proposes the use of the Horizontal Directional Drill (HDD) construction method to avoid in-stream construction activities and minimize any potential impacts to fishery resources in the Carmans River.

Construction of the pipeline through the Long Island Sound would impact some NMFS's EFH-designated species. Most Juvenile and adult EFH-designated species would avoid construction activity. However, some larvae and eggs of EFH-designated species may be impacted. Construction related increases in sedimentation and turbidity could potentially lead to gill damage and cause suffocation to various life stages of EFH-designated species as well as hinder predation efficiency of sight feeding fish at or adjacent to the project area. Iroquois would consult with the NMFS to minimize potential impacts on EFH-designated species. We have recommended that Iroquois file with the Secretary copies of all correspondence with the NMFS regarding measures to minimize potential impacts to EFH-designated species. We have consulted with the NMFS on preparing an

EFH assessment for methods to avoid, minimize, or mitigate impacts on EFH-designated species (see appendix F).

Marine Invertebrates

The placement of the proposed ELI Project pipeline across the Long Island Sound would primarily result in short-term impacts to the benthic macroinvertebrate species at and adjacent to the footprint of the proposed project. However, there is also the potential for long-term impacts from the pipeline construction. Pipeline trenching, cable sweep, and anchor placement would crush and injure benthic invertebrates and disrupt their habitat. Some of the more mobile organisms in the project area could avoid direct injury from construction activities. However, slow moving, less mobile and sessile organisms would be impacted. Additionally, pipeline construction activities would result in short term increases in turbidity and sedimentation. Detrimental ecological effects caused by sediment particles include scouring and/or smothering of habitat, partial or total occlusion of respiration, feeding, or sensory mechanisms of organisms, and bodily scouring. Impacts from increased turbidity and sedimentation would be avoided and minimized by the use of the subsea plow as the primary trenching method.

The pipeline would cross a short section (936 feet) of a shellfish lease area. Shellfish recovery from disturbance to this habitat would take at least 3 to 5 years and the portions of this habitat where the seabed is severely disturbed (i.e., pipeline trench and anchor scars) may take even longer to recover.

The majority of the offshore pipeline crossing of Long Island Sound between MPs 0.2 and 16.5 affects silt, clay, and mud substrate that provides habitat for a variety of benthic invertebrates. The re-colonization and recovery rates of disturbed offshore habitat would depend upon various local conditions such as the sedimentation, currents, and recruitment rate of the area. The majority of the offshore benthic communities would be expected to recover within 2 to 3 years after completion of the proposed project. However, there may be construction related depressions (e.g., anchor scars) in the seabed and slower growing, late stage succesional components of the benthic community that take longer to recover.

Short sections of the offshore pipeline that would cross utility lines and would not be buried. These sections of the pipeline laying on the sea bed could hinder migration of some important commercial species (American lobster and blue crab). However, these shellfish species would be unlikely to directly intercept these relatively short obstacles and could move around them. The exposed sections of the pipeline would be covered by concrete mats and/or rock. This structure may provide new habitat for various benthic organisms that prefer hard substrate.

Wildlife Resources

Wildlife species occurring along the proposed pipeline route are typically those occurring in deciduous, coniferous, and mixed forest, early successional, wetland, riparian, and marine habitat. The proposed facilities would cross the Long Island Sound, an important resource for marine mammals and offshore birds. These species are expected to avoid this area during construction of the proposed facilities.

Vegetation

The ELI Project would result in temporary disturbance to vegetation in Connecticut and New York during construction and, to a lesser degree, during operation and maintenance. Vegetative communities outside the maintained portions of the existing ROW include forested, open, and agricultural lands. A total of 74.5 acres of forested land, 122.7 acres of open land (including maritime beach), and 12.0 acres of agricultural land would be affected by pipeline facilities (see table 3.8.1-3). Of the 74.5 acres of forest disturbed during construction of the pipeline facilities, about 27.1 acres would be maintained in herbaceous cover and the remaining 47.4 acres would be allowed to revegetate to forest. Permanent impacts to forested areas were minimized to the maximum extent practicable by collocating 90 percent of the onshore portion of the pipeline facilities with existing ROW. Aboveground facilities would affect a total of 4.1 acres of forested land and 10.0 acres of open land. Of the 4.1 acres of forest disturbed during construction of the aboveground facilities, about 0.2 acres would be maintained in herbaceous cover and the remaining 3.9 acres would be allowed to revegetate to forest.

As a result of these impact minimization measures, the pipeline would affect approximately 61.1 acres of forested land within the designated boundaries of the Central Pine Barrens. Of the 61.1 acres of forest habitat affected 31.0 would be permanent and 30.1 would be temporary. We recommend to further reduce impacts to vegetation, particularly forested land, that ELI should use the HDD construction method wherever feasible in the Central Pine Barrens.

Threatened and Endangered Species

We determine that nine federally-listed endangered and threatened species could potentially occur in the vicinity of the proposed pipeline facilities. On the basis of information in Iroquois' proposed avoidance and minimization procedures, subsequent filings received from Iroquois, and our informal consultation with the FWS and NMFS, we conclude that implementation of the ELI Project would not adversely impact the shortnose sturgeon; green, Kemp's ridley, leatherback, and loggerhead sea turtles; bog turtle; piping plover; bald eagle; or roseate tern.

Wetlands

Approximately 8.03 acres of wetland would be disturbed by construction of the proposed pipeline facilities. In general, impact on wetlands would be temporary and minor because Iroquois would implement the FERC Plan and Procedures during construction and operation of the facilities. Iroquois proposes to implement all of our Procedures. Approximately 0.73 acres would be affected by operation of the ELI Project.

Land Use, Recreation, and Aesthetics

Approximately 90 percent of the total length of the onshore portion of the proposed pipeline would be located adjacent to and partially overlapping existing corridors, such as existing pipeline, road, powerline, and railroad rights-of-way. The project would generally be installed within a 75-foot-wide construction ROW and in additional workspace areas where necessary. For operation, Iroquois would acquire between 10 and 50 feet for a new permanent ROW along the new proposed

pipeline facilities, depending on the amount of overlap with adjacent rights-of-way, and would generally maintain a 50-foot-wide operational ROW.

The proposed pipeline would directly disturb approximately 365.1 acres of land and water during construction of the proposed pipeline and aboveground facilities (not including the construction and use of access roads, or the area of Long Island Sound bottom impacted by anchor scars and cable sweep), of which 63 percent constitutes the Long Island Sound crossing, 13 percent is forested land, 21 percent is open land, 2 percent is agricultural land, and less than 1 percent is beach. Most of this land would be allowed to return to its previous use after construction is completed, but an estimated 26.7 acres of forest land would be permanently converted to open land uses. Construction of aboveground facilities would affect 23.8 acres, and operation of these facilities would require 0.14 acres of sea bottom in Long Island Sound, 0.4 acres of forested land, 2.4 acres of open land, and 3.9 acres of commercial/industrial land. In total, approximately 141.74 acres of land would be permanently retained as ROW and aboveground facilities. Of this amount, 62.34 acres would be permanent ROW underwater in the Long Island Sound.

Commercial Fishing

The Long Island Sound pipeline segment would cross one shellfish lease area. This shellfish lease area would be directly disturbed by trench excavation, and three shellfish lease areas are located within 1.0 mile of the proposed pipeline route and may be subject to potential sedimentation impacts resulting from construction. To avoid or minimize impacts on commercial fishing, Iroquois would construct the offshore pipeline during winter months and coordinate with and notify impacted groups, including the affected Lobstermen's Associations, of the exact location of the pipeline before construction, the size of the lay barge and support vessels, and the schedule for construction, and determine if lobstermen should act as spotters during construction. We believe that these features would effectively reduce and minimize impacts on commercial fishing activities.

Residential, Commercial, and Industrial Areas

There are seven existing residences within 50 feet of the construction work areas, primarily in New York. At least three of these are located within 25 feet of the construction work areas. The proposed project would cross one planned development.

Permanent impacts would result within the 50-foot-wide operational ROW, where future development, such as structures (e.g. house additions, garages, barns, pools) and large, deep-rooted landscaping, would be prohibited. Due to the nature of temporary construction impacts to residential, commercial and industrial areas, and due to the potential for unanticipated issue to arise during construction, we have recommended that Iroquois develop site-specific plans for crossing each of these residential areas. We have also recommended that Iroquois establish a landowner complaint resolution procedure and report all landowner complaints in its weekly progress report to the Commission.

Special Use Areas

The project would cross or be located near numerous special land use areas (as listed in Table 3.8.3-1), including the Long Island Sound and the various resources within the Central Pine Barrens.

Iroquois continues to consult with the agencies and organizations that administer these areas to develop appropriate impact minimization and mitigation measures. Impacts on these areas are expected to be minimized due to effective routing, use of existing corridors, minimizing the width of construction ROW, timing of construction activities, and Iroquois' ongoing consultations with the appropriate administering agencies and organizations. We have recommended that any revised construction and restoration plans developed for crossing these special use areas be submitted to the Secretary for review prior to construction.

Hazardous Waste Sites

Eight areas of known hazardous wastes were identified within or in the vicinity of the proposed project. Based on Iroquois' consultations with administering agencies, Iroquois states that it is unlikely that soil or groundwater contamination would be encountered during construction. However, we have recommended that Iroquois continue to consult with the appropriate administering agencies, and we have recommended that any revised construction plans be submitted to the Secretary for review prior to construction.

Visual Impacts

Visual impacts would be minor overall as a result of the proposed pipeline construction. The proposed pipeline would cross two designated scenic rivers (the Peconic and Carmans rivers), and would cross or parallel three visual resources identified in the Central Pine Barrens Comprehensive Land Use Plan, including the William Floyd Parkway, Brookhaven State Park, and Southaven County Park. Based on Iroquois' use of existing ROW to route the proposed project through most of these areas, and the proposed HDD crossing for the Carmans River and Southaven County Park, we believe that the impacts from the proposed pipeline on scenic resources would be minor and short-term.

The most visible features constructed for the proposed project would be the new aboveground facilities where no energy facilities currently exist. However, we believe that the aboveground facilities (compressor stations, meter stations, mainline valves, and receiver station) are adequately sited and would not introduce significant visual intrusions on the surrounding landscapes.

Cultural Resources

Iroquois' cultural resources consultants identified 3 potentially eligible archaeological sites and one historic cemetery that may be affected by the proposed project. The sites and the cemetery would be evaluated for their eligibility to the National Register of Historic Places. FERC would consult with the New York SHPO and the ACHP to develop appropriate mitigation or avoidance plans if the sites are determined eligible. Marine archaeological investigations did not reveal the presence of cultural resources although surveys of the anchor spread areas have yet to be completed. In addition, FERC is requesting from Iroquois, that all unsurveyed portions of the proposed pipeline be surveyed and evaluated prior to issuance of a certificate.

Socioeconomics

Construction and operation of the project would result in some short-term and long-term socioeconomic impacts. The temporary influx of the construction workforce would cause a short-term increase in population, which may have minor effects on the availability of temporary housing and public services. Temporary and permanent fiscal benefits in the form of additional tax revenues at the state and county level would result from construction and operation of the pipeline. Project construction would have little impact on local road, rail, and vessel traffic. No environmental justice issues have been identified for this project.

Air Quality and Noise

Air Quality

The proposed Devon Compressor Station would have operational emissions of about 3.8 tons per year of VOCs, 49 tons per year of NO_X, 5.7 tons per year of SO_X, 78.1 tons per year of CO, and 4.8 tons per year of PM_{10}. State permit review would ensure that the Devon Compressor Station meets Best Available Control Technology (BACT) requirements.

There would be no operational emissions associated with the gas cooler facility at the Dover Compressor Station. The design changes for the Brookfield Compressor Station likewise would not cause any change in anticipated facility emissions. Consequently, the facility modifications proposed for the Dover and Brookfield compressor stations would not have any operational air quality impacts.

Noise

Construction activity at the proposed Devon Compressor Station would produce noise levels of about 57 dBA at the closest noise sensitive areas. This noise level would be about the same as existing daytime ambient noise levels. Construction activity would be limited to daytime periods, further reducing the disturbance potential from station construction. Consequently, construction noise impacts for the Devon Compressor Station are not considered significant.

Operation of the Devon Compressor Station would increase noise levels at the nearest NSAs by about 1 dBA. In all cases, the incremental L_{dn} level attributable to the Devon Compressor Station would be less than the FERC guideline of 55 dBA. In addition, the hourly average noise levels (Leq) produced by the Devon Compressor Station would be less than the 51 dBA limit set by the state noise standards, consequently, noise impacts from operation of the Devon Compressor Station are not considered significant.

Construction and operation of the Dover Compressor Station would cause slightly greater increases in noise levels at the closest noise sensitive areas, but the increases in noise levels are not large enough to be considered significant. Modifications proposed for the Brookfield Compressor Station would not noticeably alter the noise environment, either during construction or operation.

Reliability and Safety

The pipeline and aboveground facilities associated with the Iroquois Pipeline Project would be designed, constructed, operated, and maintained in accordance with the DOT's *Minimum Federal Safety Standards* in 49 CFR 192. These regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. The DOT's regulations do not however address concerns related to siting, routing, or bond issues. These items, in part, are a matter of private negotiation between pipeline companies and landowners and/or local government zoning boards. Siting and routing are also the responsibility of the FERC and are part of this EIS.

Alternatives

We evaluated alternatives to the Iroquois ELI Pipeline Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives include the following:

A no action or postponed action alternative;

Four system alternatives that could possibly deliver the proposed volumes to eastern Long Island (i.e., the One-Pipe System Alternative and the ELI System Alternative, both of which are based on Iroquois' ELI Project and the Islander East Pipeline Project; the Long Island System Alternative; and the Tennessee Connecticut-Long Island Lateral Project System Alternative, which is based on Tennessee's planned Connecticut-Long Island Lateral Project), and potential New York/New Jersey-based System Alternatives;

Four alternatives to the proposed route

Five variations to the proposed route.

We recommend that Iroquois adopt the William Floyd Parkway Variation (B) and that it conduct studies to determine the feasibility of HDD construction at the interchange of William Floyd Parkway and Middle County Road.

5.2 FERC STAFF RECOMMENDED MITIGATION

If the Commission issues a Certificate for the proposed project, we recommend that the Commission's Order include the following measures. We believe that these measures would further mitigate the environmental impacts associated with the construction and operation of the proposed project.

1. Iroquois shall follow the construction procedures and mitigation measures described in its application, supplemental filings, and as identified in the EIS, unless modified by this Order. Iroquois must:

a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
b. justify each modification relative to site-specific conditions;
c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
d. receive approval in writing from the Director of the OEP **before using that modification**.

2. The Director of OEP has delegation authority to take whatever steps necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:

a. the modification of conditions of this Order; and
b. the design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impacts resulting from project construction and operation.

3. **Prior to any construction**, Iroquois shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors, and contractor personnel will be informed of the environmental inspector's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include the staff's recommended facility locations. **As soon as they are available, and before the start of construction**, Iroquois shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by this Order. All requests for modifications of environmental conditions of this Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Iroquois's exercise of eminent domain authority granted under NGA section 7(h) in any condemnation proceedings related to this Order must be consistent with these authorized facilities and locations. Iroquois's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a ROW for a pipeline to transport a commodity other than natural gas.

5. Iroquois shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that will be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in

writing. For each area, the request must include a description of the existing land use/cover type, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction** in or near that area.

This requirement does not apply to route variations recommended herein or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

a. implementation of cultural resources mitigation measures;
b. implementation of endangered, threatened, or special concern species mitigation measures;
c. recommendations by state regulatory authorities; and
d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of this Certificate** and **before construction** begins, Iroquois shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how Iroquois will implement the mitigation measures required by this Order. Iroquois must file revisions to the plan as schedules change. The plan shall identify:

a. how Iroquois will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction inspection personnel;
b. the number of environmental inspectors assigned per spread, and how the company would ensure that sufficient personnel are available to implement the environmental mitigation;
c. company personnel, including environmental inspectors and contractors, who will receive copies of the appropriate material;
d. what training and instructions Iroquois will give to all personnel involved with construction and restoration (initial and refresher training, as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
e. the company personnel (if known) and specific portion of Iroquois's organization having responsibility for compliance;
f. The procedures (including use of contract penalties) Iroquois will follow if noncompliance occurs; and
g. For each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

(1) the completion of all required surveys and reports;
(2) the mitigation training of onsite personnel;
(3) the start of construction; and
(4) the start and completion of restoration.

7. Iroquois shall employ at least one environmental inspector per construction spread. The environmental inspector shall be:

a. responsible for monitoring and ensuring compliance with all environmental mitigative measures required by this Order, Iroquois's ESC Plan, and other grants, permits, certificates, or other authoring documents;
b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see recommendation 6 above) and any other authorizing documents;
c. empowered to order correction of acts that violate the environmental conditions of this Order, and any other authorizing document;
d. a full-time position separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of this Order, as well as any environmental conditions/permit requirements imposed by other Federal, state, or local agencies; and
f. responsible for maintaining status reports.

8. Iroquois shall file updated status reports prepared by the head environmental inspector with the Secretary on a **weekly** basis **until** all construction-related activities, including restoration and initial permanent seeding, are complete. On request, these status reports will also be provided to other Federal and state agencies with permitting responsibilities. Status reports shall include:

a. the current construction status of each spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
b. a listing of all problems encountered and each instance of noncompliance observed by the environmental inspectors during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirement imposed by other Federal, state, or local agencies);
c. corrective actions implemented in response to all instances of noncompliance, and their cost;
d. the effectiveness of all corrective actions implemented;
e. a description of any landowner/resident complaints which may relate to compliance with the requirements of this Order, and the measures taken to satisfy their concerns; and
f. copies of any correspondence received by Iroquois from other Federal, state or local permitting agencies concerning instances of noncompliance, and Iroquois's response.

9. Iroquois must receive written authorization from the Director of OEP **before commencing service** from the project. Such authorization will only be granted following a determination that rehabilitation and restoration of the ROW is proceeding satisfactorily.

10. **Within 30 days of placing the certificated facilities in service,** Iroquois shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
    identifying which of the certificate conditions Iroquois have complied with or will comply with. This statement shall also identify any areas along the ROW where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

11. **Before construction,** Iroquois shall file with the Secretary the location by milepost of all private wells within 150 feet of pipeline construction activities. Iroquois shall conduct, with the well owner's permission, pre- and post- construction monitoring of well yield and water quality for these wells. **Within 30 days** of placing the facilities in service, Iroquois shall file a report with the Secretary discussing whether any complaints were received concerning well yield or water quality, and how each incident was resolved. (Page 3.3-5)

12. Iroquois shall replace any potable water supply system that it damages during construction and cannot repair to its former capacity and quality. Iroquois shall file a report with the Secretary identifying all potable water supply systems damaged by construction and how they were repaired. (Page 3.3-8)

13. **Prior to construction,** Iroquois shall consult with the National Park Service to discuss the effects of its proposed pipeline in the vicinity of the Carmans River. Iroquois shall file all oral and written comments it receives with the Secretary. (Page 3.3-11)

    Iroquois shall install the pipeline beneath the Peconic River using the bore construction method. (Page 3.3-12)

    In the event that the HDD under the Carmans River is unable to be successfully completed, Iroquois should not use an open cut construction method for crossing the Carmans River until it develops an open cut contingency plan, in consultation with appropriate agencies, including the COE, FWS, NPS and NYSDEC. The plan should include scaled drawings identifying all areas that would be disturbed by constructing the open cut crossing, and a description of the mitigation measures that would be used. The plan and all correspondence regarding it with these agencies should be filed with the Secretary, for review and written approval by the Director of OEP

prior to construction, and at the time the contingency plan is filed with other permitting agencies. (Page 3.3-13)

16. Iroquois shall consult with the NMFS, CTDEP, NYSDEC, and interested organizations to develop a construction schedule that minimizes impacts on managed species of commercially and recreationally important fishery resources. All oral and written communications regarding this shall be filed with the Secretary, **prior to construction**. (Page 3.4-3)

17. Iroquois shall use mid-line buoys on each anchor cable on all construction barges. (Page 3.4-3)

18. Iroquois shall restore the seabed by backfilling the trench between MPs 0.04 and 16.5, using sea plow technology where possible, to within +/- 1 foot of the original contour. (Page 3.4-4)

19. Iroquois shall consult with the appropriate state and local agencies to identify applicable regulations regarding disposal of stumps and other vegetative debris on- and off-site. All related correspondence shall be filed with the Secretary, **before construction**. (Page 3.5-3)

20. **Prior to construction**, Iroquois shall file with the Secretary copies of all site-specific invasive species control plans and correspondence with individuals, organizations, and agencies regarding measures to control the introduction and spread of invasive species. (Page 3.5-4)

21. Iroquois shall develop detailed, site-specific construction plans (including scaled drawings identifying areas to be disturbed by construction) for crossing MP 21.1-21.9, 22.9-23.8, and 25.2-25.6 of the Central Pine Barrens using HDD. Iroquois shall file the plans with the Secretary for review and written approval from the Director of OEP, **prior to construction**.

    Iroquois shall develop a site-specific contingency plan for each HDD crossing in the event HDD is determined to not be feasible at the site. The site-specific contingency plan shall identify the potential impacts to the Central Pine Barrens with using another crossing method. The information shall be filed with the Secretary for review and written approval by the Director of OEP **prior to construction** and at the time the contingency plans are filed with other permitting agencies. (Page 3.5-5)

22. Iroquois shall install its pipeline at the landfall on Long Island using the HDD method; develop a detailed, site-specific construction plan (including scheduling and scaled drawings identifying areas to be disturbed by construction) for the landfall at Long Island in consultation with FWS and NYSDEC; and file the plan, and all oral and written comments from the FWS and NYSDEC regarding it, with the Secretary for review and written approval from the Director of OEP, **prior to construction**.

Additionally, Iroquois shall develop a site-specific contingency plan in case the HDD is determined to be infeasible at the site. Iroquois shall consult with the FWS and NYSDEC to identify the potential impacts to the beach habitat from using another construction method, and to develop conservation measures to avoid or reduce impacts. The information shall be filed with the Secretary for review and written approval by the Director of OEP, **prior to construction**. (Page 3.6-12)

23. Iroquois shall continue consultation with the FWS and the NYSDEC regarding the piping plover and any requirements for surveying, monitoring, or avoiding piping plovers and their habitat. Iroquois shall not begin construction activities until:

    a. the staff receives comments from the FWS regarding the proposed action;
    b. the staff completed formal consultation with the FWS, if required; and
    c. Iroquois has received written notification from the Director of OEP that construction or use of mitigation may begin. (Page 3.6-12)

24. Iroquois shall not begin any construction activities or conservation measures until:

    a. we receive concurrence from NMFS and FWS regarding the effects of the proposed project on federally listed or proposed threatened or endangered species identified in section 3.6 of this DEIS;
    b. we complete consultation with the NMFS and FWS in accordance with Section 7 of the ESA; and
    c. Iroquois has received written notification from the Director of the OEP that construction or use of conservation measures may begin. (Page 3.6-13)

25. Iroquois shall consult with the NYSDEC to determine whether mitigation measures are needed to protect habitat for the eastern tiger salamander. All oral and written comments or recommendations that Iroquois receives from the NYSDEC shall be filed with the Secretary, **prior to construction**. (Page 3.6-14)

26. Iroquois shall continue to consult with individual operators and leaseholders of shellfish beds traversed by, or in the vicinity of the proposed project, to identify specific provisions for the reduction or mitigation of the potential loss of productivity of these shellfish beds, including, but not limited to, such options as preconstruction harvesting and/or coordination of clam harvesting activities in conjunction with construction activities. If further consultations result in additional measures to reduce or mitigate the potential loss of productivity of shellfish beds, Iroquois shall file these measures, including any related correspondence, with the Secretary, **prior to construction**. (Page 3.8-8)

27. Iroquois shall develop a plan that incorporates storm contingency and harbor or refuge plans during construction of its offshore facilities in consultation with the U.S. Coast Guard and other interested organizations, and file copies of relevant correspondence and the final plan with the Secretary, **prior to construction**. (Page 3.8-9)

Iroquois shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the project and restoration of the ROW. **Prior to construction**, Iroquois shall mail the complaint procedures to each landowner whose property would be crossed by the project. In a letter to affected landowners, Iroquois shall:

a. Provide a local contact that the landowner should call first with their concerns; the letter shall indicate how soon a landowner should expect a response;
b. Instruct the landowner that if they are not satisfied with the response to call Iroquois' Hotline; the letter shall indicate how soon a landowner should expect a response; and
c. Instruct the landowner that if they are still not satisfied with the response from Iroquois' Hotline, they should contact the Commission's Enforcement at (877) 303-4340.

In addition, Iroquois shall include in weekly/bi-weekly status reports a copy of a table that contains the following information for each problem/concern:

The date of the call;
The identification number from the certified alignment sheets of the affected property;
The description of the concern/problem; and
An explanation of how and when the problem was resolved, will be resolved or why it has not been resolved. (Page 3.8-13)

Iroquois shall continue to consult with the CPBJPPC and the Division of State Parks at the NYSOPRHP concerning construction through the Central Pine Barrens. If mitigation is required by any agency for the construction in the Central Pine Barrens, Iroquois shall file copies of the final mitigation plan and any related correspondence with the Secretary, **prior to construction**. (Page 3.8-30)

30. Iroquois shall develop a plan that indicates how it would control or limit potential all-terrain vehicle use and damage on its ROW in consultation with affected landowners and the CPBJPPC along the ROW, and file a copy of the final plan with the Secretary, **prior to construction**. (Page 3.8-31)

31. Iroquois shall develop a plan for notifying Federal, state and local agencies, including the U.S. EPA, CTDEP, and NYSDEC, in the event that soil and/or groundwater contamination is encountered during construction. This plan shall be developed in compliance with Federal, state and local laws, and identify the appropriate avoidance, remediation, or mitigation measures that would be implemented. Iroquois shall file a copy of this plan and any correspondence regarding it with the Secretary, **prior to construction**. (Page 3.8-31)

32. Iroquois shall file documentation of concurrence from the New York and Connecticut agencies for its Certification of Consistency with the New York and Connecticut Coastal Zone Management Programs with the Secretary, **before construction**. (Page 3.8-32)

33. Iroquois shall defer construction and use of the proposed project facilities together with the use of related ancillary areas for staging, storage, and temporary work areas and new or to-be-improved access roads, **until**:

    a. Iroquois files with the Secretary all additional required cultural resources inventory and evaluation reports, and any necessary treatment plans;
    b. Iroquois files the appropriate SHPO and any other appropriate parties' comments on all cultural resources requests, investigation reports, and plans;
    c. The ACHP has been given an opportunity to comment if any historic properties would be affected; and
    d. The Director of OEP reviews and approves all cultural resources reports and plans, and notifies Iroquois in writing that they may proceed with mitigation programs or construction.

    All material filed with the Secretary containing **location, character, and ownership** information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE." (Page 3.9-3)

34. **Prior to construction**, Iroquois shall file the following information with the Commission:

    a. the make and model number of the turbine and compressor to be installed at the Devon Compressor Station, and
    b. the manufacturer emission estimates in tons per year for NO_x, CO, VOC, PM, and SO_2 from the selected turbine unit. (Page 3.11-3)

35. Iroquois shall file a noise survey with the Secretary **no later than 60 days** after placing the Devon Compressor Station in service. If the noise attributable to the operation of the facility at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, Iroquois shall install additional noise controls to meet that level **within 1 year** of the in-service date. Iroquois shall confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Page 3.11-6)

36. Iroquois shall file a noise survey with the Secretary **no later than 60 days** after placing the Dover Compressor Station in service. If the noise attributable to the modifications at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, Iroquois shall install additional noise controls to meet that level **within 1 year** of the in-service date. Iroquois shall confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Page 3.11-7)